REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

The claims currently pending in this application are Claims 1-22. Claims 1 and 18 are the only independent claims.

As discussed previously in connection with this application, the subject matter at issue here pertains to a device for protecting the bearing of an electrical machine against damaging passage of current. As set forth in independent Claim 1, the device comprises a compensation circuit that produces a compensation current which compensates for the parasitic current arising during operation of the electrical machine and passing through the bearing. The compensation current produced by the compensation circuit has a corresponding magnitude to that of the parasitic current, but is opposite in phase to the parasitic current. The device also comprises a coupling element for direct or indirect coupling of the compensation current into the bearing.

Independent Claim 18 recites a device for protecting a bearing supporting the rotor of an electrical machine against passage of parasitic current associated with operation of the electrical machine. The claimed device comprises means for producing a compensation current corresponding in magnitude to the parasitic current, but opposite in phase to the parasitic current, and coupling means for coupling the compensation current into the rotor.

As has been explained previously, the device at issue here addresses problems associated with parasitic current that might otherwise damage the bearing by actively producing a compensation current corresponding in magnitude, but

opposite in phase, to the parasitic current. This compensation current is coupled to the bearing or the rotor to achieve no net current flow, or virtually no net current flow, through the bearing. That is, the compensation current compensates or balances the parasitic current to avoid difficulties such as those discussed in the background portion of the present application.

As also discussed in earlier responses, the primary reference relied upon in the Official Action, Japanese Application Publication No. 10-014159 to Susumu et al., is concerned with the damage that can result to a bearing due to electrolytic corrosion caused by shaft current. The previously submitted translation of this reference describes reducing or eliminating the shaft current Ij in the shaft 3. By reducing or eliminating the shaft current Ij, electrolytic corrosion of the bearing caused by the shaft current is not likely to occur.

Susumu et al. discloses that the mechanism 12a for reducing or eliminating the shaft voltage includes a resistor 13 and a capacitor 14 disposed in the electrically closed circuit 11 between the electric motor 7, the inverter device 10 and the ground. The reference describes that the operation of the electric motor 7 causes electric charges 18 to be accumulated in the stator iron core 1. These electric charges 18 are absorbed by the capacitor 14 through the resistor 13.

Thus, as previously explained, Susumu et al.'s proposal for reducing or eliminating the shaft current is wholly passive in nature, involving the use of the capacitor 14 and the resistor 13. There is no compensation current actively produced to offset or counteract parasitic current. Instead, Susumu et al. simply seeks to absorb electric charges by way of the capacitor/resistor 14, 13 arrangement.

The secondary reference relied upon in the Official Action, U.S. Patent No. 6,127,778 to Op Het Veld et al., discloses a lamp holder for low pressure discharge lamps operating at a high frequency. This reference is specifically concerned with addressing what is referred to as "conducted interference" -- interference in which high frequency voltage variations of the discharge arc with respect to the ground cause high-frequency to flow from the lamp vessel back to the lamp vessel via parasitic capacitances between the lamp and the ground, via ground, via parasitic capacitances between ground and the mains, and via the power supply. The reference points out that in the case of low-pressure discharge lamps operating at a high frequency, this conducted interference can be rather significant because the relatively large surface of the discharge vessel results in a large capacitance between the discharge vessel and the ground.

Thus, the disclosures in the two references are quite different from one another and address quite different problems. As noted, Susumu et al. relates to a bearing protective device in a blower, and is specifically concerned with addressing problems associated with bearing damage due to electrolyte corrosion caused by the shaft current of the electric motor. During operation of the motor, a voltage is produced between the shaft and ground, and can cause a discharge through the oil film of the bearing. Susumu et al. seeks to passively reduce or attenuate this current through the use of the resistor 13 and the capacitor 14.

In contrast, the disclosure in Op Het Veld et al. is specifically concerned with a unique problem specifically related to the operation of low-pressure discharge lamps. In these types of lamps, high-frequency voltage variations of the discharge arc with

respect to ground cause a high-frequency current to flow through the mains. Op Het Veld et al. seeks to reduce this high-frequency current flow through the mains.

Thus, the disclosures in Susumu et al. and Op Het Veld et al. relate to quite different technical areas (bearing protective devices versus low-pressure discharge lamps) and address quite different problems (attenuating shaft current to prevent electrolytic corrosion that might damage the bearing versus reducing parasitic current flowing via the power supply to the mains).

The disclosures in the two references provide no reason for incorporating the compensation conductor 6 described in Op Het Veld et al.'s lamp holder into Susumu et al. 's device. The disclosure in Op Het Veld et al. of providing a compensation conductor 6 is specifically intended to counteract the conducted interference that exists in low-pressure discharge lamps which operate at a high frequency. Quite clearly, the disclosure in Susumu et al. does not involve low-pressure discharge lamps. In addition, Op Het Veld et al. does not state or suggest that the disclosed compensation conductor 6 also has useful application in connection with blower/bearing arrangements to attenuate shaft current and prevent electrolytic corrosion that might otherwise damage the bearing. Indeed, as noted, Op Het Veld et al. is specifically concerned with addressing a problem unique to low-pressure discharge lamps. There is no reason why an ordinarily skilled artisan would expect that utilizing Op Het Veld et al.'s compensation conductor would achieve success in addressing the problem that is the focus of Susumu et al.'s disclosure. To be sure, Susumu et al. nowhere indicates that conducted interference such as that which exists in low-pressure discharge lamps operating at a high frequency is a problem or concern in bearing/blower arrangements. Thus, the Official Action has not

established that conducted interference, which is apparently a concern in low-pressure discharge lamps operating at a high frequency, is also a concern in blower arrangements such as described in Susumu et al. Stated differently, the Official Action has not established that the reason discussed in Op Het Veld et al. for utilizing the disclosed compensating conductor 6 (i.e., reducing conducted interference) exists in blower arrangements such as described in Susumu et al.

Thus, considering the context in which the compensation conductor 6 disclosed in the Op Het Veld et al. is utilized (i.e., low-pressure discharge lamps operating at a high frequency to reduce conducted interference), the Official Action has not established a reason why one of ordinary skill in the art would have reasonably expected that using the Op Het Veld et al. compensating conductor in Susumu et al. would achieve beneficial results.

The solution discussed in Op Het Veld et al. would not help address the problem which Susumu et al. seeks to address. This is because the disclosure in Op Het Veld et al. only addresses conducted interferences and reducing the high-frequency current through the mains. It has nothing to do with avoiding bearing damage associated with electrolyte corrosion caused by the shaft current of the electric motor.

Further, even if one were to apply the disclosure in Op Het Veld et al. to Susumu et al., the result would not be the device recited in the independent claims here. Rather, the result would be a device comprising an electric motor and a bearing, with reduced high-frequency current though the mains of the electric motor. That is, the result would not be an actively generated compensating current.

It is also significant to note that there exist no disclosure in Op Het Veld et al., or Susumu et al., of producing a compensation current having a magnitude corresponding to the magnitude of the parasitic current. Indeed, nowhere does Op Het Veld et al. state that the magnitude of the current through the compensation conductor 6 equals the magnitude of current to be compensated. Figs. 3A-3C in Op Het Veld et al. support this view. If the Examiner is aware of a portion of the disclosure in Op Het Veld et al. which describes producing a compensating current corresponding in magnitude to parasitic current, the Examiner is kindly asked to point out such disclosure.

Also, utilizing the arrangement described in Op Het Veld et al. in an electric machine such as Susumu et al. would only serve to reduce the disturbances spreading out from the electric machine. Such an arrangement would not be able to reduce or eliminate the parasitic current across the bearing of the electric machine as in the device at issue here.

Further, the device disclosed in Op Het Veld et al. does not influence the source of the parasitic current, namely the high-frequency voltage of the discharge lamp. On the other hand, the device at issue here reduces or eliminates the source of the parasitic current, i.e., the voltage between the axle and the housing of the electric machine.

In addition, Op Het Veld et al. aims to reduce the disturbances produced by the discharge lamp and spreading via the mains into the power supply system. In contrast, the device at issue here seeks to eliminate the disturbances within the device itself, namely the flow of the parasitic current across the bearings of the electric machines.

For at least the reasons set forth above, it is respectfully submitted that the rejection of the independent claims based on the combination of the disclosures in Susumu et al. and Op Het Veld et al. is improper and should be withdrawn.

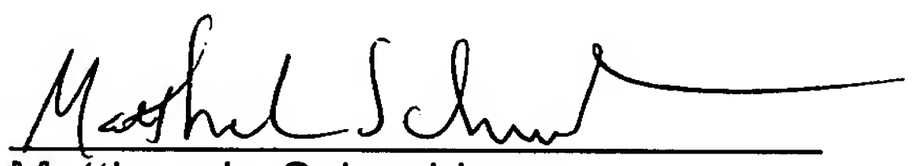
The dependent claims are allowable at least by virtue of their dependence upon allowable inde0pednent claims. Thus, a detailed discussion of the additional distinguishing aspects of the device recited in the dependent claims is not set forth at this time.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: December 3, 2007 By: 

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